

SEQUENCE LISTING

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Wang, Hong-Wei
McNeil, Hugh P.
Hasain, Ahsan

<120> Tryptase Polypeptide and Uses Thereof

<130> SPRUSON-09811

<160> 26

<170> PatentIn version 3.3

<210> 1

<211> 235

<212> PRT

<213> Human delta 2 tryptase

<400> 1

Met Leu Ser Leu Leu Leu Leu Ala Leu Pro Val Leu Ala Ser Pro Ala
1 5 10 15

Tyr Val Ala Pro Ala Pro Gly Gln Ala Leu Gln Gln Thr Gly Ile Val
20 25 30

Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu
35 40 45

Arg Val Arg Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile
50 55 60

His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Glu Pro Asp Ile
65 70 75 80

Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr
85 90 95

Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His Pro Gln
100 105 110

Phe Tyr Ile Ile Gln Thr Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu
115 120 125

Glu Pro Val Asn Ile Ser Ser His Ile His Thr Val Thr Leu Pro Pro
130 135 140

Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp
145 150 155 160

Gly Asp Val Asp Asn Asn Val His Leu Pro Pro Pro Tyr Pro Leu Lys
165 170 175

Glu Val Glu Val Pro Val Val Glu Asn His Leu Cys Asn Ala Glu Tyr
180 185 190

His Thr Gly Leu His Thr Gly His Ser Phe Gln Ile Val Arg Asp Asp
195 200 205

Met Leu Cys Ala Gly Ser Glu Asn His Asp Ser Cys Gln Gly Asp Ser
210 215 220

Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr
225 230 235

<210> 2
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<212> PRT
<213> Human delta 1 tryptase

<400> 2

Met Leu Ser Leu Leu Leu Leu Ala Leu Pro Val Leu Ala Ser Pro Ala
1 5 10 15

Tyr Val Ala Pro Ala Pro Gly Gln Ala Leu Gln Gln Thr Gly Ile Val
20 25 30

Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu
35 40 45

Arg Val Arg Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile
50 55 60

His Pro Gln Trp Val Leu Thr Ala Ala His Cys Met Glu Pro Asp Ile
65 70 75 80

Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr
85 90 95

Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His Pro Gln
100 105 110

Phe Tyr Ile Ile Gln Thr Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu
 115 120 125

Glu Pro Val Asn Ile Ser Ser His Ile His Thr Val Thr Leu Pro Pro
 130 135 140

Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp
 145 150 155 160

Gly Asp Val Asp Asn Asn Val His Leu Pro Pro Pro Tyr Pro Leu Lys
 165 170 175

Glu Val Glu Val Pro Val Val Glu Asn His Leu Cys Asn Ala Glu Tyr
 180 185 190

His Thr Gly Leu His Thr Gly His Ser Phe Gln Ile Val Arg Asp Asp
 195 200 205

Met Leu Cys Ala Gly Ser Glu Asn His Asp Ser Cys Gln Gly Asp Ser
 210 215 220

Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr
 225 230 235

<210> 3
 <211> 226
 <212> PRT
 <213> Human variant delta tryptase

<400> 3

Met Leu Ser Leu Leu Leu Leu Ala Leu Pro Val Leu Ala Ser Pro Ala
 1 5 10 15

Tyr Val Ala Pro Ala Pro Gly Gln Ala Leu Gln Gln Thr Gly Ile Val
 20 25 30

Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu
 35 40 45

Arg Val Arg Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile
 50 55 60

His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Glu Pro Val Gln
 65 70 75 80

Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser
85 90 95

Arg Ile Ile Val His Pro Gln Phe Tyr Ile Ile Gln Thr Gly Ala Asp
100 105 110

Ile Ala Leu Leu Glu Leu Glu Glu Pro Val Asn Ile Ser Ser His Ile
115 120 125

His Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met
130 135 140

Pro Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asn Val His Leu
145 150 155 160

Pro Pro Pro Tyr Pro Leu Lys Glu Val Glu Val Pro Val Val Glu Asn
165 170 175

His Leu Cys Asn Ala Glu Tyr His Thr Gly Leu His Thr Gly His Ser
180 185 190

Phe Gln Ile Val Arg Asp Asp Met Leu Cys Ala Gly Ser Glu Asn His
195 200 205

Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn
210 215 220

Gly Thr
225

<210> 4
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 4
cccgtcctgg cgagcccg

18

<210> 5
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 5
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19

<210> 6
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<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 6
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19

<210> 7
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 7
tttggacagg aggggctggc t

21

<210> 8
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 8
gagcaagtgg ccctggca

18

<210> 9
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 9
ggacatagtg gtggatccag

20

<210> 10
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<212> DNA
<213> Artificial Sequence

<220>
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<400> 10
tgcagcaaac gggcattggt g

21

<210> 11
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 11
aaagctgtgg cccgtatgga g

21

<210> 12
<211> 20
<212> DNA
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<220>
<223> Synthetic

<400> 12
ggccacagct ttcaaatcgt

20

<210> 13
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 13
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22

<210> 14
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 14
cctgccaggg tgactccgga ggg

23

<210> 15
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 15

Tyr	His	Thr	Gly	Leu	His	Thr	Gly	His	Ser	Phe	Gln	Ile	Val	Arg	Asp
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Asp

<210> 16
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 16
caccatgatt gttggggggc aggaggcccc caggagcaag tggccctgg

49

<210> 17
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic

<400> 17
 ggtgccattc accttgca

18

<210> 18
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic

<400> 18
 tgcagcaaac gggcattgtt g

21

<210> 19
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic

<400> 19
 aaagctgtgg cccgtatgga g

21

<210> 20
 <211> 810
 <212> DNA
 <213> Human delta 2 tryptase

<400> 20
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 gccccaggcc aggccctgca gcaaacgggc attgttgggg ggcaggaggc cccaggagc 120
 aagtggccct ggcagggtgag cctgagagtc cgcggcccat actggatgca cttctgcggg 180
 ggctccctca tccaccccca gtgggtgcta accgcggcgc actgcgtgga accggacatc 240
 aaggatctgg ccgccctcag ggtgcaactg cgggagcagc acctctacta ccaggaccag 300
 ctgctgccgg tcagcaggat catcgtgcac ccacagttct acatcatcca gaccggggcg 360
 gacatcgccc tgctggagct ggaggagccc gtgaacatct ccagccacat ccacacggtc 420
 acgctgcccc ctgcctcgga gaccttcccc ccggggatgc cgtgctgggt cactggctgg 480

ggcgacgtgg acaataatgt gcacctgccg ccgccatacc cgctgaagga ggtggaagtc 540
 cccgtagtgg aaaaccacct ttgcaacgcg gaatatcaca ccggcctcca tacggggccac 600
 agctttcaaa tcgtccgcga tgacatgctg tgtgcgggga gcgaaaatca cgactcctgc 660
 caggggtgact ctggagggcc cctgggtctgc aagggtgaatg gcacctaaact gcaggcgggc 720
 gtggtcagct gggaggagag ctgtgcccag cccaaccggc ctggcatcta caccgtgtc 780
 acctactact tggactggat ccaccactat 810

<210> 21
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 <212> PRT
 <213> Human variant delta tryptase

<400> 21

Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu
 1 5 10 15

Arg Val Arg Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile
 20 25 30

His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Glu Pro Val Gln
 35 40 45

Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser
 50 55 60

Arg Ile Ile Val His Pro Gln Phe Tyr Ile Ile Gln Thr Gly Ala Asp
 65 70 75 80

Ile Ala Leu Leu Glu Leu Glu Glu Pro Val Asn Ile Ser Ser His Ile
 85 90 95

His Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met
 100 105 110

Pro Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asn Val His Leu
 115 120 125

Pro Pro Pro Tyr Pro Leu Lys Glu Val Glu Val Pro Val Val Glu Asn
 130 135 140

His Leu Cys Asn Ala Glu Tyr His Thr Gly Leu His Thr Gly His Ser
 145 150 155 160

Phe Gln Ile Val Arg Asp Asp Met Leu Cys Ala Gly Ser Glu Asn His
165 170 175

Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn
180 185 190

Gly Thr

<210> 22
<211> 275
<212> PRT
<213> Human alpha 1 tryptase

<400> 22

Met Leu Ser Leu Leu Leu Leu Ala Leu Pro Val Leu Ala Ser Arg Ala
1 5 10 15

Tyr Ala Ala Pro Ala Pro Val Gln Ala Leu Gln Gln Ala Gly Ile Val
20 25 30

Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu
35 40 45

Arg Val Arg Asp Arg Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile
50 55 60

His Pro Gln Trp Val Leu Thr Ala Ala His Cys Leu Gly Pro Asp Val
65 70 75 80

Lys Asp Leu Ala Thr Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr
85 90 95

Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His Pro Gln
100 105 110

Phe Tyr Ile Ile Gln Thr Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu
115 120 125

Glu Pro Val Asn Ile Ser Ser Arg Val His Thr Val Met Leu Pro Pro
130 135 140

Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp
145 150 155 160

Gly Asp Val Asp Asn Asp Glu Pro Leu Pro Pro Pro Phe Pro Leu Lys
 165 170 175

Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala Lys Tyr
 180 185 190

His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Ile Arg Asp Asp
 195 200 205

Met Leu Cys Ala Gly Asn Ser Gln Arg Asp Ser Cys Lys Gly Asp Ser
 210 215 220

Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln Ala Gly
 225 230 235 240

Val Val Ser Trp Asp Glu Gly Cys Ala Gln Pro Asn Arg Pro Gly Ile
 245 250 255

Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr Val Pro
 260 265 270

Lys Lys Pro
 275

<210> 23
 <211> 275
 <212> PRT
 <213> Human alpha 2 tryptase

<400> 23

Met Leu Ser Leu Leu Leu Leu Ala Leu Pro Val Leu Ala Ser Pro Ala
 1 5 10 15

Tyr Ala Ala Pro Ala Pro Val Gln Ala Leu Gln Gln Ala Gly Ile Val
 20 25 30

Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu
 35 40 45

Arg Val Arg Asp Arg Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile
 50 55 60

His Pro Gln Trp Val Leu Thr Ala Ala His Cys Leu Gly Pro Asp Val
 65 70 75 80

Lys Asp Leu Ala Thr Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr
 85 90 95
 Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His Pro Gln
 100 105 110
 Phe Tyr Ile Ile Gln Thr Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu
 115 120 125
 Glu Pro Val Asn Ile Ser Ser Arg Val His Thr Val Met Leu Pro Pro
 130 135 140
 Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp
 145 150 155 160
 Gly Asp Val Asp Asn Asp Glu Pro Leu Pro Pro Pro Phe Pro Leu Lys
 165 170 175
 Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala Lys Tyr
 180 185 190
 His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Ile Arg Asp Asp
 195 200 205
 Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly Asp Ser
 210 215 220
 Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln Ala Gly
 225 230 235 240
 Val Val Ser Trp Asp Glu Gly Cys Ala Gln Pro Asn Arg Pro Gly Ile
 245 250 255
 Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr Val Pro
 260 265 270
 Lys Lys Pro
 275

<210> 24
 <211> 275
 <212> PRT
 <213> Human beta 1 tryptase

<400> 24

Met Leu Asn Leu Leu Leu Leu Ala Leu Pro Val Leu Ala Ser Arg Ala
 1 5 10 15

Tyr Ala Ala Pro Ala Pro Gly Gln Ala Leu Gln Arg Val Gly Ile Val
 20 25 30

Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu
 35 40 45

Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile
 50 55 60

His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro Asp Val
 65 70 75 80

Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr
 85 90 95

Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His Pro Gln
 100 105 110

Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu
 115 120 125

Glu Pro Val Asn Val Ser Ser His Val His Thr Val Thr Leu Pro Pro
 130 135 140

Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp
 145 150 155 160

Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro Leu Lys
 165 170 175

Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala Lys Tyr
 180 185 190

His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg Asp Asp
 195 200 205

Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly Asp Ser
 210 215 220

Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln Ala Gly
 225 230 235 240

Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro Gly Ile
 245 250 255

Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr Val Pro
 260 265 270

Lys Lys Pro
 275

<210> 25
 <211> 275
 <212> PRT
 <213> Human beta 2 tryptase

<400> 25

Met Leu Asn Leu Leu Leu Ala Leu Pro Val Leu Ala Ser Arg Ala
 1 5 10 15

Tyr Ala Ala Pro Ala Pro Gly Gln Ala Leu Gln Arg Val Gly Ile Val
 20 25 30

Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu
 35 40 45

Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile
 50 55 60

His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro Asp Val
 65 70 75 80

Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr
 85 90 95

Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His Pro Gln
 100 105 110

Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu
 115 120 125

Glu Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu Pro Pro
 130 135 140

Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp
 145 150 155 160

Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro Leu Lys
 165 170 175

Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala Lys Tyr
 180 185 190

His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg Asp Asp
 195 200 205

Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly Asp Ser
 210 215 220

Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln Ala Gly
 225 230 235 240

Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro Gly Ile
 245 250 255

Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr Val Pro
 260 265 270

Lys Lys Pro
 275

<210> 26
 <211> 275
 <212> PRT
 <213> Human beta 3 tryptase

<400> 26

Met Leu Asn Leu Leu Leu Leu Ala Leu Pro Val Leu Ala Ser Arg Ala
 1 5 10 15

Tyr Ala Ala Pro Ala Pro Gly Gln Ala Leu Gln Arg Val Gly Ile Val
 20 25 30

Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu
 35 40 45

Arg	Val	Arg	Asp	Arg	Tyr	Trp	Met	His	Phe	Cys	Gly	Gly	Ser	Leu	Ile	50	55	60
His	Pro	Gln	Trp	Val	Leu	Thr	Ala	Ala	His	Cys	Val	Gly	Pro	Asp	Val	65	70	75
Lys	Asp	Leu	Ala	Ala	Leu	Arg	Val	Gln	Leu	Arg	Glu	Gln	His	Leu	Tyr	85	90	95
Tyr	Gln	Asp	Gln	Leu	Leu	Pro	Val	Ser	Arg	Ile	Ile	Val	His	Pro	Gln	100	105	110
Phe	Tyr	Thr	Ala	Gln	Ile	Gly	Ala	Asp	Ile	Ala	Leu	Leu	Glu	Leu	Glu	115	120	125
Glu	Pro	Val	Asn	Ile	Ser	Ser	Arg	Val	His	Thr	Val	Met	Leu	Pro	Pro	130	135	140
Ala	Ser	Glu	Thr	Phe	Pro	Pro	Gly	Met	Pro	Cys	Trp	Val	Thr	Gly	Trp	145	150	155
Gly	Asp	Val	Asp	Asn	Asp	Glu	Arg	Leu	Pro	Pro	Pro	Phe	Pro	Leu	Lys	165	170	175
Gln	Val	Lys	Val	Pro	Ile	Met	Glu	Asn	His	Ile	Cys	Asp	Ala	Lys	Tyr	180	185	190
His	Leu	Gly	Ala	Tyr	Thr	Gly	Asp	Asp	Val	Arg	Ile	Val	Arg	Asp	Asp	195	200	205
Met	Leu	Cys	Ala	Gly	Asn	Thr	Arg	Arg	Asp	Ser	Cys	Gln	Gly	Asp	Ser	210	215	220
Gly	Gly	Pro	Leu	Val	Cys	Lys	Val	Asn	Gly	Thr	Trp	Leu	Gln	Ala	Gly	225	230	235
Val	Val	Ser	Trp	Gly	Glu	Gly	Cys	Ala	Gln	Pro	Asn	Arg	Pro	Gly	Ile	245	250	255

Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr Val Pro
260 265 270

Lys Lys Pro
275